Determination of nursing students' level of knowledge about human papilloma virus

Eurasian Clinical and Analytical Medicine Original Research

HPV information of nursing students

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Abstract

Aim: This study aimed to determine the level of knowledge of nursing students about the Human Papilloma Virus (HPV).

Material and Methods: This descriptive type of research was conducted with 305 students studying at the Faculty of Health Sciences, Department of Nursing between May 2022 and September 2022. The study data were collected face-to-face by the researchers using a Descriptive Information Form and the HPV Knowledge Scale. In addition to numbers, percentages, means, and standard deviations, independent samples t-test, one-way ANOVA, simple regression analysis, and Least Significant Difference were used in the analysis of the data.

Results: It was determined that the mean score of the HPV Knowledge Scale of the nursing students was 7.99±7.24, and the mean scores of the sub-scales were 5.38±4.79 for the General HPV Knowledge, 0.51±0.95 for the Knowledge of HPV Vaccination Program. It was found that most of the students had knowledge about sexually transmitted disease, but this knowledge was insufficient.

Discussion: This study reveals that the knowledge levels of nursing students and other university students about HPV and infectious diseases are insufficient.

Keywords

Nursing, HPV, Student

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Introduction

Human Papilloma Virus (HPV) is a DNA virus and has more than 100 different types. While some types of the virus cause benign lesions such as genital warts, other types can cause various cancers such as cervical and penile at a rate of 90% [1,2].

According to GLOBOCAN 2020 world data, cervical cancer ranks fourth among the most common cancer types and first among gynecological cancer types [3]. In Turkey, according to the Health Statistics Yearbook 2020, cervical cancer incidence is 4.3/100.000, and it is the ninth most common cancer in women and the third among gynecological cancer types [available at: sbsgm.saglik.gov.tr].

The fact that the risk of STIs increases in adolescents, such as polygamy and the decrease in the age of first sexual intercourse, highlights the importance of protection in the prevention of diseases caused by HPV [2]. Protection from HPV infection can be possible by identifying risk groups and avoiding risky behaviors [1,2]. Therefore, it is important to identify risk factors, raise awareness of individuals at risk, guide them to receive health services, and evaluate them for follow-up [4]. The HPV vaccine is of great importance in prevention. However, Turkey is not included in the national vaccination calendar and is paid [1].

As a period in which the foundations of a healthy life are laid, youth is a period in which the tendency towards risky behaviors increases and high-risk sexual behaviors can be experienced unconsciously [1]. Nursing students are an important group both in terms of belonging to a young group and in terms of raising public awareness for the future as the health personnel of the future [5]. For this purpose, the study was conducted to determine what nursing students know about HPV.

Material and Methods

This descriptive type of research was conducted between May 2022 and June 2022. Ethics committee approval dated 14.06.2022 and numbered E-88012460-050.01.04-174623 was obtained before conducting the research. The research was conducted following the principle of informed consent, the principle of respect for autonomy, the principle of confidentiality and protection of confidentiality, and the principles of the Declaration of Helsinki.

No sample selection was made in the study. A total of 305 students studying at the Faculty of Health Sciences, Nursing Department of a university in Turkey, agreed to participate in the research.

A descriptive information form and the HPV information scale were used to collect data.

Descriptive Information Form consists of questions about the socio-demographic characteristics of the students, their education, and their knowledge about HPV.

HPV Knowledge Scale: The scale was developed in 2013 by Waller et al. It was developed by Demir and Özdemir (2019) and adapted to Turkish [available at: https://tez.yok.gov.tr]. The scale, which consists of a total of 33 items and four sub-dimensions, is answered as "Yes", "No", or "I don't know". Each correct answer on the scale is scored as one, while incorrect answers and "I don't know" are scored as zero. The general HPV knowledge sub-dimension consists of items one to 16, and the total score that can be obtained varies between zero and 16. Knowledge about the current HPV vaccination program is measured by items 28, 29, 30, 31, 32, and 33, and the scores of this sub-scale range from 0 to 6. General HPV vaccination knowledge is measured by items 23, 24, 25, 26, and 27, and the total score ranges from 0 to 5. Another sub-scale, HPV screening test knowledge is measured by items 17, 18, 19, 20, 21, and 22, and the total score that can be obtained from the sub-scale varies between 0 and 6. High scores indicate high knowledge of the sub-scales.

Statistical analysis

In addition to numbers, percentages, means, and standard deviations, independent samples t-test, one-way ANOVA, simple regression analysis, and Least Significant Difference were used in the analysis of the data. The normality of the distribution of numerical variables was evaluated by Skewness and Kurtosis.

Results

The majority of the students' fathers were secondary school/high school graduates and civil servants, while their mothers were primary school graduates and housewives. It was found that most of the students had knowledge about sexually transmitted disease, but this knowledge was insufficient (Table 1). It was determined that the students needed education about sexually transmitted diseases, did not have the HPV vaccine, and did not have information about uterine cancer (Table 2).

When the findings in Table 1 were examined, it was determined that there was a positive and moderately significant relationship between the age of the students and the total and all sub-scale scores of the scale. As seen in Table 1, the sub-scale score of general HPV knowledge varies significantly with gender ($p<0.05$). Females had higher mean scores.

The knowledge about the HPV vaccination program and HPV screening test knowledge sub-scale scores changed significantly with the status of having a family history of cancer, and the mean scores of those who did not have a family history of cancer were higher ($p<0.05$).

General HPV knowledge, General HPV Vaccine Knowledge sub-scale, and total scale scores change significantly with the need for training about sexually transmitted diseases ($p<0.05$).

The total scale score and all sub-scales except the HPV screening test knowledge sub-scale changed significantly with the knowledge about uterine cancer, and the mean scores of those with related knowledge were higher ($p<0.05$).

The general HPV knowledge sub-scale and HPV total scale score changed significantly with the status of HPV vaccination, and the mean scores of those who received the vaccine were higher ($p<0.05$).

Table 3 shows that 61% of the students received training on HPV, and the majority of them received this training in their courses at the university. It was found that the mean scores of those who received training were higher. It was found that the mean score of the HPV Knowledge Scale of the students was 7.99±7.24, and the mean scores of the sub-scales were 5.38±4.79 for the General HPV Knowledge, 0.51±0.95 for the Knowledge of HPV Vaccination Program, 1.16±1.54 for the General HPV Vaccination Knowledge, and 0.92±1.28 for the HPV Screening Test Knowledge, respectively.

Discussion

In this study, it was found that the HPV vaccine knowledge, HPV knowledge, HPV vaccination program, HPV screening test, and general HPV knowledge score averages of the students were low as shown in Table 1. It was found that the majority of the students had knowledge about STIs and this knowledge was insufficient, they did not get the HPV vaccine, they needed training about STIs, and they did not have information about uterine cancer. In studies conducted with nursing students, it was determined that most of the students heard about HPV and HPV vaccines, but their knowledge was not sufficient [5,6] and most of the students heard about STIs but their knowledge was not sufficient [7]. In some studies, it was found that the level of HPV knowledge of the students was low [8,9], and partially sufficient, and the knowledge level of health students was higher than that of other students [9]. When

Table 1. Distribution of HPV Knowledge Scale and Sub-Dimensions Mean Scores According to the Sociodemographic Characteristics of the Participants.

			General HPV Information	Knowledge on the HPV Vaccination Program	General HPV Vaccine Knowledge	HPV Screening Test Knowledge	HPV total
	n	%	X±SD	X±SD	X±SD	X±SD	X±SD
Age			r=.040	r=.015	r=.040	r=.030	r=.049
			p=0.000	p=0.035	p=0.000	p=0.002	p=0.000
Gender							
Female	206	67.5	5.96±4.92	0.46±0.90	1.20±1.59	0.90±1.27	8.53±7.33
Male	99	32.5	4.19±4.28	0.61±1.05	1.06±1.44	0.97±1.32	6.84±6.96
Testing and Significance			t:3.210	t:-1.216	t:0.782	t:-0.487	t:1.915
			p:0.002	p:0.226	p:0.435	p:0.626	p:0.056
Year							
Freshman	96	31.5	3.73±4.53	0.43±0.97	0.72±1.30	0.57±0.98	5.47±6.79
Sophomore	90	29.5	3.96±4.34	0.34±0.80	0.84±1.29	0.71±1.23	5.86±6.37
Junior	86	28.2	7.05±4.33	0.69±1.01	1.59±1.57	1.18±1.37	10.53±6.67
Senior	33	10.8	9.69±3.81	0.72±1.03	2.15±2.03	0.92±1.28	14.45±6.24
Testing and Significance			F: 22.828	F: 2.800	F: 11.564	F: 11.507	F: 22.700
			p:0.000	p:0.040	p:0.000	p:0.000	p:0.000
Place of residence							
Province	178	58.4	5.28±4.86	0.46±0.90	1.21±1.60	0.82±1.20	7.78±7.29
District	86	28.2	5.55±4.37	0.58±1.01	1.18±1.47	1.11±1.38	8.44±6.79
Village	41	13.4	5.46±5.39	0.60±1.06	0.87±1.43	1.00±1.39	7.95±8.07
Testing and Significance			F: 0.098	F: 0.694	F: 0.797	F: 1.612	F: 0.241
			p:0.906	p:0.500	p:0.452	p:0.201	p:0.786
Father's educational status							
Primary school and below	99	32.5	6.08±4.79	0.49±0.90	1.21±1.52	1.03±1.33	8.81±7.11
Secondary school/high school	150	49.2	4.82±4.74	0.46±0.93	1.10±1.58	0.88±1.24	7.28±7.31
Graduate and Postgraduate	56	18.3	5.66±4.82	0.69±1.07	1.21±1.53	0.85±1.32	8.42±7.24
Testing and Significance			F: 2.169	F: 1.279	F: 0.178	F: 0.473	F: 1.473
			p:0.116	p:0.280	p:0.837	p:0.624	p:0.231
Mother's educational status							
Primary school and below	202	66.2	5.99±4.71	0.52±0.94	1.26±1.56	1.07±1.36	8.86±7.12
Secondary school/high school	90	29.5	4.58±4.89	0.51±1.00	1.01±1.56	0.66±1.07	6.77±7.48
Graduate and Postgraduate	13	4.3	1.46±1.94	0.38±0.76	0.53±0.87	0.38±1.12	2.76±3.56
Testing and Significance			F: 7.539	F: 0.131	F: 1.960	F: 4.502	F: 6.320
			p:0.001	p:0.877	p:0.143	p:0.012	p:0.002
Paternal occupation							
Civil servant	72	23.6	4.34±4.53	0.47±0.85	1.00±1.45	0.81±1.28	6.63±6.92
Retired	48	15.7	5.89±4.99	0.39±0.79	1.35±1.63	0.81±1.16	8.45±7.42
Worker	65	21.3	5.32±4.74	0.60±0.99	1.18±1.66	0.90±1.28	8.01±7.46
Unemployed	7	2.4	10.57±1.51	1.71±1.60	2.14±1.34	1.57±1.27	16.00±2.76
Tradesmen	44	14.4	6.47±4.73	0.56±1.06	1.36±1.52	1.06±1.26	9.47±7.05
Other	69	22.6	4.95±4.84	0.40±0.91	0.94±1.48	0.98±1.40	7.28±7.17
Testing and Significance			F: 3.094	F: 2.766	F: 1.304	F: 0.660	F: 2.832
			p:0.010	p:0.018	p:0.262	p:0.654	p:0.016
Maternal occupation							
Civil servant	11	3.6	2.09±2.25	0.27±0.64	1.00±1.18	0.72±1.10	4.09±4.25
Worker	5	1.6	6.80±4.96	1.20±1.78	1.20±2.16	0.80±1.78	10.00±4.51
Housewife	289	94.8	5.48±4.82	0.51±0.94	1.16±1.55	0.9±1.28	8.10±7.26
Testing and Significance			F: 2.917	F: 1.643	F: 0.062	F: 0.166	F: 1.829
			p:0.056	p:0.195	p:0.940	p:0.848	p:0.162

Table 2. Distribution of HPV Knowledge Scale and Sub-Dimensions Mean Scores According to Other Characteristics of Participants.

			General HPV Information	Knowledge on the HPV Vaccination Program	General HPV Vaccine Knowledge	HPV Screening Test Knowledge	HPV Total
	n	%	X±SD	X±SD	X±SD	X±SD	X±SD
Smoking status							
Yes	69	22.6	5.05±4.47	0.75±1.12	1.44±1.63	0.97±1.23	8.23±7.25
No	236	77.4	5.48±4.88	0.44±0.89	1.07±1.51	0.91±1.30	7.91±7.25
Testing and Significance			t:-0.647	t:2.088	t:1.766	t:0.316	t:0.314
			p:0.518	p:0.040	p:0.078	p:0.752	p:0.753
Family history of cancer							
Yes	64	21.0	5.28±5.21	0.21±0.51	0.98±1.57	0.62±1.18	7.10±7.41
No	241	79.0	5.41±4.68	0.59±1.02	1.20±1.54	1.00±1.30	8.22±7.20
Testing and Significance			t:-0.198	t:-4.041	t:-1.024	t:-2.128	t:-1.094
			p:0.843	p:0.000	p:0.306	p:0.034	p:0.275
State of knowledge about sexually transmitted diseases							
Yes	224	73.4	6.36±4.77	0.61±1.02	1.41±1.62	1.04±1.27	9.43±7.23
No	81	26.6	2.67±3.69	0.23±0.67	0.46±1.03	0.61±1.29	4.00±5.63
Testing and Significance			t:7.088	t:3.758	t:5.942	t:2.555	t:6.865
			p:0.000	p:0.000	p:0.000	p:0.011	p:0.000
How do you define your level of knowledge							
I have adequate knowledge	64	21.0	6.75±4.91	0.90±1.31	1.40±1.63	1.37±1.46	10.43±7.82
I have knowledge but not enough	164	53.8	6.28±4.75	0.48±0.84	1.40±1.64	0.91±1.19	9.09±7.06
I have very little knowledge	61	20.0	2.45±3.33	0.26±0.72	0.40±0.93	0.47±1.14	3.60±5.16
I have no idea	16	5.2	1.87±3.03	0.18±0.54	0.58±0.81	1.00±1.46	3.61±4.60
Testing and Significance			F: 16.208	F: 5.932	F: 7.955	F: 5.319	F: 14.850
			p:0.000	p:0.001	p:0.000	p:0.001	p:0.000
Need for training on STIs							
Yes	199	65.2	5.72±4.79	0.56±1.00	1.25±1.64	0.96±1.31	8.51±7.48
Neither agree nor disagree	67	22.0	3.68±4.31	0.29±0.77	0.70±1.15	0.73±1.23	5.41±5.94
No	39	12.8	6.56±4.96	0.61±0.96	1.46±1.48	1.07±1.24	9.71±7.10
Testing and Significance			F: 6.092	F: 2.253	F: 4.144	F: 1.124	F: 6.048
			p:0.003	p:0.107	p:0.017	p:0.326	p:0.003
State of knowledge about uterine cancer							
Yes	136	44.6	6.84±4.98	0.64±1.11	1.44±1.64	1.08±1.23	10.02±7.39
No	169	55.4	4.21±4.30	0.40±0.79	0.92±1.42	0.80±1.31	6.35±6.71
Testing and Significance			t:4.869	t:2.105	t:2.904	t:1.869	t:4.530
			p:0.000	p:0.036	p:0.004	p:0.063	p:0.000
Have you been vaccinated against HPV?							
Yes	27	8.9	7.37±4.20	0.96±1.22	1.48±1.52	1.33±1.49	11.14±6.39
No	278	91.1	5.19±4.81	0.47±0.91	1.12±1.54	0.88±1.26	7.68±7.26
Testing and Significance			t:2.531	t:2.033	t:1.128	t:1.719	t:2.389
			p:0.016	p:0.051	p:0.260	p:0.087	p:0.017

the studies carried out abroad are examined, it was found that the majority of students studying in the health sciences departments of a university in South Africa had heard about HPV and its vaccine [10], and in the study in Brazil, 98% of nursing students had heard about the HPV vaccine, but their knowledge level was insufficient [11]. We can say that the knowledge level of young adults about HPV, HPV vaccine and STD is insufficient.

In the study, the HPV knowledge of female students was found to be higher than that of males. In other studies, the scores of female participants were found to be higher [7,12,13]. The findings are similar to each other, and it is thought that this may be due to the fact that HPV is generally associated with cervical cancer.

In this study, as the grade level of nursing students increases, their level of knowledge about HPV and sexually transmitted diseases also increases (Table 1). In studies conducted on nursing students and university students, it was found that the level of knowledge about HPV increased as the grade level increased [7,14]. It can be stated that the results of the study were influenced by the fact that nursing students took obstetrics, gynecology, and sexual health courses in their 3rd year at the university.

Table 3. Distribution of Mean Scores of HPV Knowledge Scale and Sub-scales according to the status of knowledge about cervical cancer.

			General HPV Information	Knowledge on the HPV Vaccination Program	General HPV Vaccine Knowledge	HPV Screening Test Knowledge	HPV Total
	n	%	X±SD	X±SD	X±SD	X±SD	X±SD
Educational status							
Yes	186	61.0	6.29±4.86	0.60±1.04	1.31±1.57	1.06±1.28	9.27±7.19
No	119	39.0	3.97±4.34	0.36±0.79	0.92±1.48	0.71±1.26	5.98±6.89
Testing and Significance			t:-4.332	t:-2.260	t:-2.144	t:-2.333	t:8.103
			p:0.000	p:0.025	p:0.033	p:0.020	p:0.000
School course/seminar							
Yes	116	38.0	7.96±4.50	0.81±1.15	1.81±1.73	1.31±1.31	11.91±6.86
No	189	62.0	3.80±4.25	0.33±0.75	0.75±1.26	0.68±1.21	5.58±6.38
Testing and Significance			t:8.103	t:3.952	t:5.728	t:4.187	t:-3.960
			p:0.000	p:0.000	p:0.000	p:0.000	p:0.000
Websites							
Yes	65	21.3	7.70±4.65	0.86±1.22	1.80±1.60	1.27±1.31	11.64±7.25
No	240	78.7	4.75±4.64	0.42±0.84	0.98±1.49	0.83±1.26	7.00±6.93
Testing and Significance			t:4.539	t:2.732	t:3.836	t:2.484	t:4.743
			p:0.000	p:0.001	p:0.000	p:0.014	p:0.000
Friends/Social circle							
Yes	31	10.2	7.09±5.14	0.93±1.23	1.77±1.76	1.45±1.45	11.25±8.24
No	274	89.8	5.19±4.72	0.46±0.91	1.09±1.51	0.86±1.25	7.62±7.04
Testing and Significance			t:2.107	t:2.047	t:2.344	t:2.407	t:2.675
			p:0.036	p:0.049	p:0.020	p:0.017	p:0.008
Books							
Yes	37	12.1	8.62±4.59	0.91±1.27	2.05±1.73	1.27±1.42	12.86±7.14
No	268	87.9	4.94±4.65	0.45±0.89	1.03±1.48	0.88±1.26	7.31±7.01
Testing and Significance			t:4.515	t:2.120	t:3.404	t:1.731	t:4.500
			p:0.000	p:0.006	p:0.001	p:0.085	p:0.000
Physician/Health Personnel							
Yes	27	8.9	7.81±4.33	0.96±1.34	1.77±1.55	1.29±1.43	11.85±6.50
No	278	91.1	5.15±4.77	0.47±0.90	1.10±1.53	0.89±1.26	7.61±7.21
Testing and Significance			t:2.787	t:1.861	t:2.182	t:1.560	t:2.936
			p:0.006	p:0.073	p:0.030	p:0.120	p:0.004

Those who do not have a family history of cancer have higher knowledge of the HPV vaccination program and HPV screening test. In the study conducted on midwifery students, the level of knowledge of students with a family history of cancer was found to be higher [8]. The reason for the difference between the two studies is thought to be due to the large number of students without a history of cancer in our study, and it is recommended to conduct comparative studies with groups with and without family cancer.

In our study, general HPV, HPV vaccine knowledge, HPV Vaccination Program and total scale score averages of those who have knowledge about uterine cancer were found to be high. Other studies have also found a relationship between HPV and cervical cancer [12,15].

In line with these results, we can conclude that those who have knowledge about uterine cancer also have knowledge about the issues affecting cancer.

In the study, it was found that those who needed training about sexually transmitted diseases had higher General HPV Knowledge, General HPV Vaccine Knowledge sub-scale, and total scale score averages, the majority of the students received training about HPV, the majority received this training in the courses given at the university, and the mean scores of those who received training were higher. When the studies on nursing students are examined, it was determined that the majority of nursing students received information about HPV [6], and HPV vaccine from health personnel and lecturers who took their classes [5]. In the study conducted on young adults, it was found that the participants heard about the HPV vaccine from the internet and from the health personnel [13]. According to an international study on students studying at the health sciences departments of a university, the majority of students (67%) were found to receive information about HPV from healthcare professionals [10]. The findings of the study support our research and it is revealed that nursing students get information from their courses and healthcare professionals (common grounds with health personnel in the practice areas of the courses), and as a group that wants to get information, they want to get it from healthcare professionals.

Conclusion

Nursing students' knowledge levels of HPV, HPV vaccine, vaccination program, and screening test were low. In line with the results, it is recommended that nursing students be members of a profession that has an active role in the protection of health, so that new studies

should be carried out to increase the knowledge level and awareness of nursing students and to investigate the HPV virus knowledge levels of the students.

Scientific Responsibility Statement
The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.

Animal and human rights statement
All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. No animal or human studies were carried out by the authors for this article.

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